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(71) Applicant(s)
Spectus Systems Ltd

(Incorporated in the United Kingdom)

Charter Way, MACCLESFIELD, Cheshire, SK10 2NG,
United Kingdom

(72) Inventor(s)
Ian James Cowan

(74) Agent and/or Address for Service
Laurence Shaw
5th Floor, Metropolitan House, 1 Hagley Road,
Edgbaston, BIRMINGHAM, B16 8TG, United Kingdom

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None

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(54) Conservatory roof connector

(57) A conservatory roof is assembled using a connector (30) mounted on the wall of a building, the connector having wall portions (W1 - W3) to engage elements of the roof whereby the roof may be assembled without the need for mitre sawing. The elements comprise a wall plate(s), a ridge member (13) and a valley member (22).

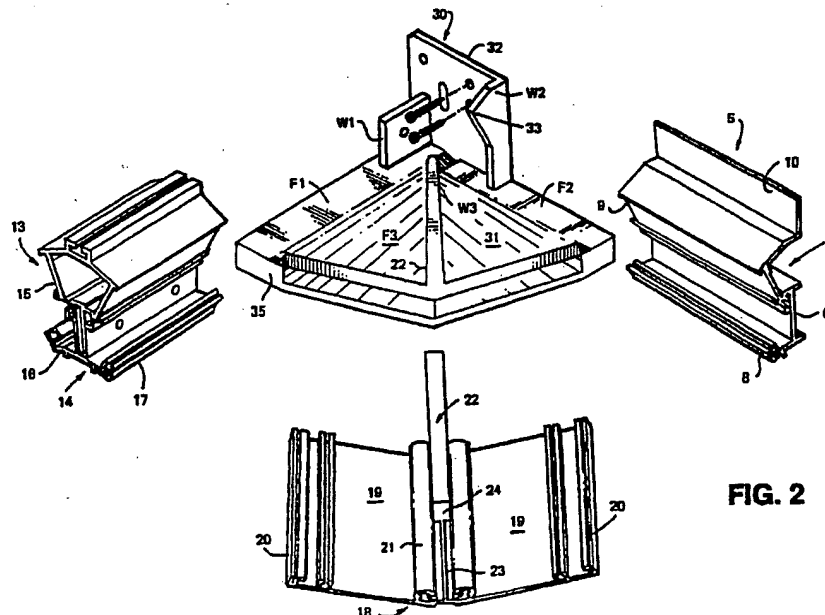


FIG. 2

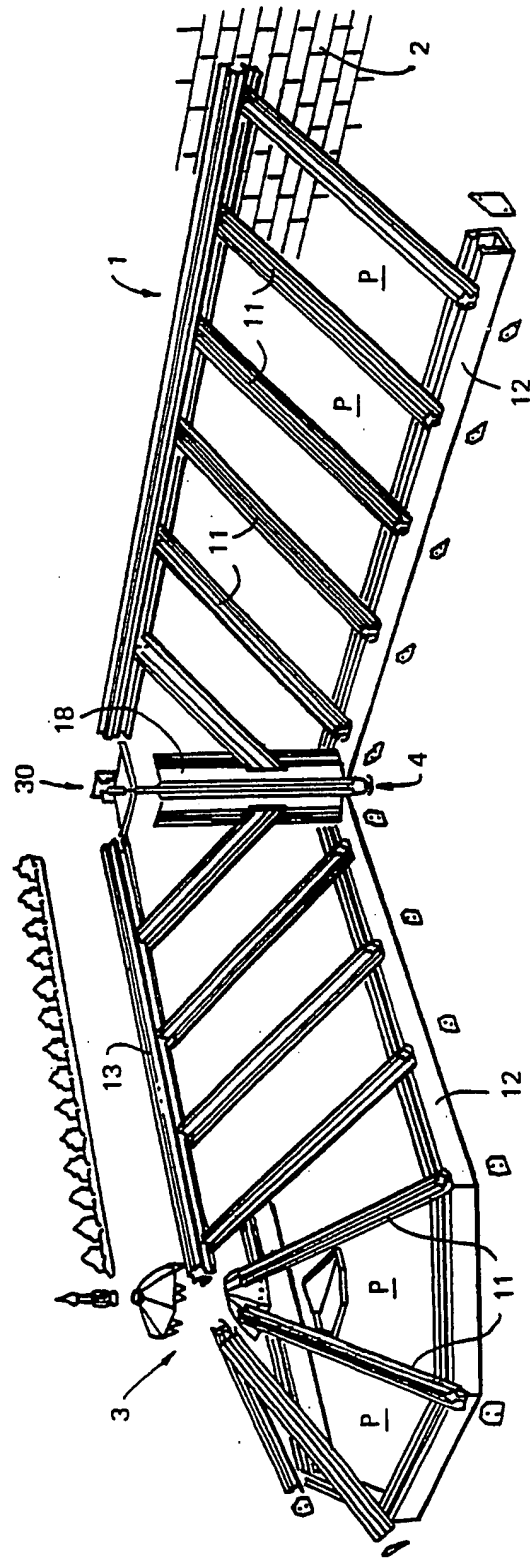


FIG. 1

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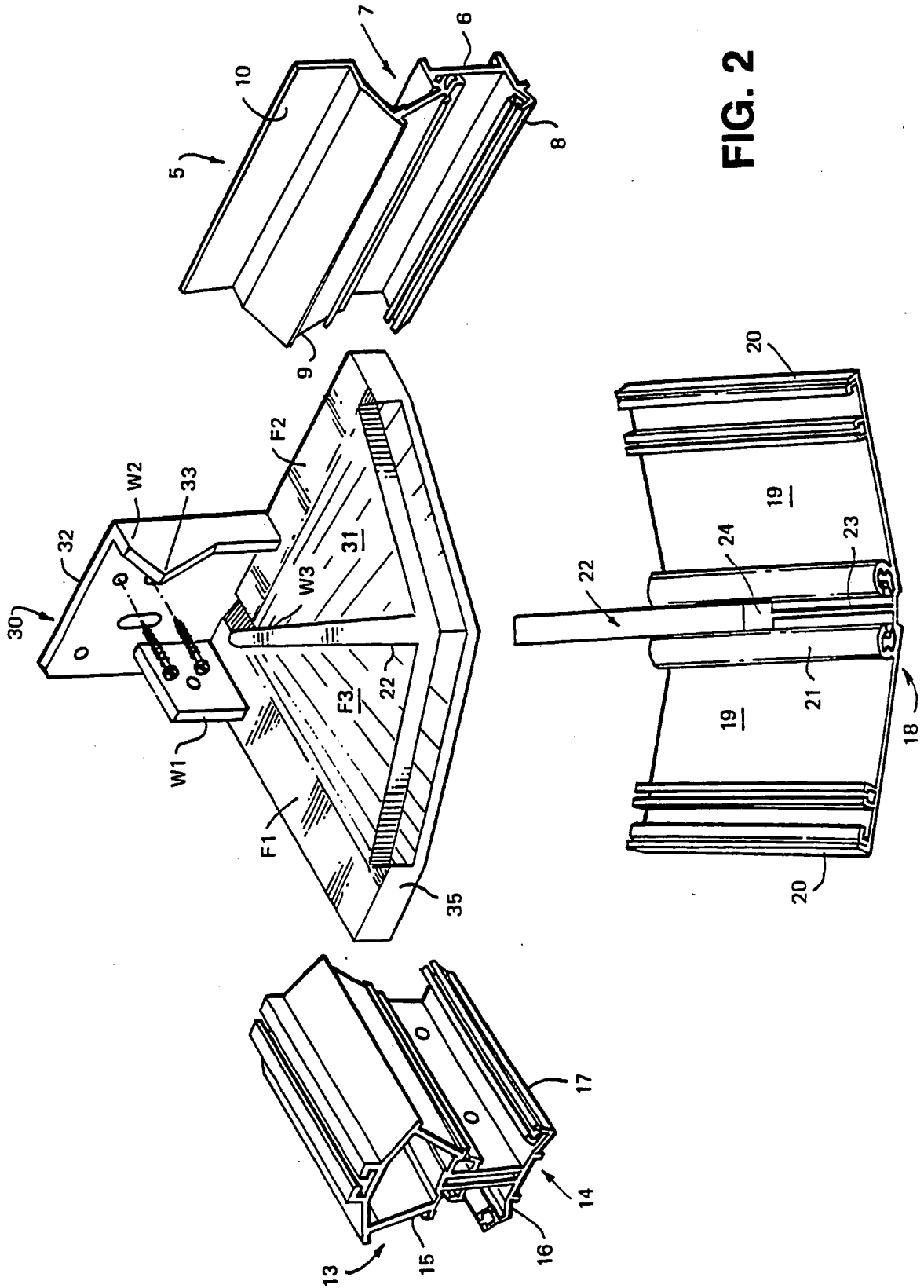


FIG. 2

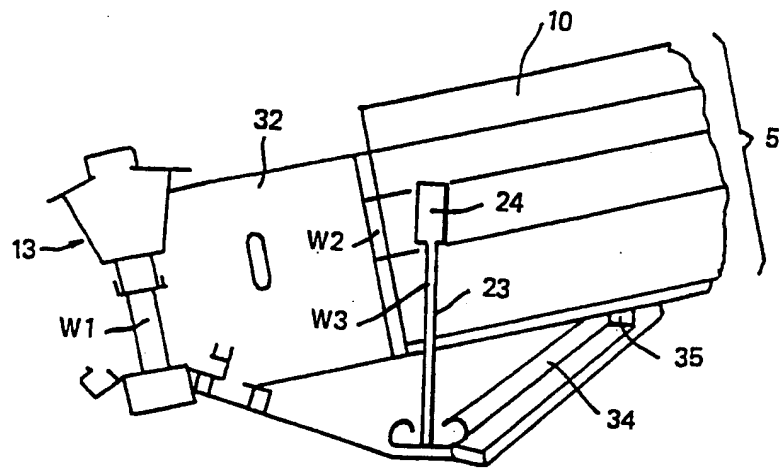


FIG. 3

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ASSEMBLY

The invention relates to the assembly of components of a conservatory roof and associated parts to a wall of another structure. The invention is of particular value in the joining of a conservatory roof and lean-to to the wall of a pre-existing house or similar structure.

It is known to mount a conservatory roof on to the wall of a house using a wallplate. It is necessary to join the components accurately and for this mitre sawing on site is necessary. No matter how carefully the assembly is done much time is needed; also much silicone sealant must be applied or interior trims fitted and the appearance can be unsightly. It is one object of this invention to provide a connector unit for the purpose whereby the assembly is made in minutes, not hours and is of attractive appearance.

According to the invention in aspect there is provided a connector unit for the mitre-free connection of the corner unit of a conservatory roof to the wall of a building, the unit comprising a one piece element having an upright wall from which project three wall portions, the outer two walls being substantially parallel to each other, one defining engaging means to complementarily engage the conservatory ridge member and the other having the profile of the wall plate to be abutted to the wall, the intermediate projecting wall extending between and at an angle to the other walls and being adapted to engage the valley member of the roof, whereby the ridge member and the wall plate and the valley member may be engaged with the respective projecting wall portions.

Preferably the connector unit includes a floor having portions to guide the ridge member, the wall plate and the valley member respectively into engagement with

the respective projecting walls. Preferably the floor portion for the valley member includes a lead in portion having a profile to complement that of the valley member.

In order that the invention may be well understood it will now be described by way of example only with reference to the accompanying diagrammatic drawings, in which:

Figure 1 is a perspective view of part of a P shape conservatory roof assembled using a connector of the invention, parts being cut away;

Figure 2 is an enlarged exploded perspective view of the top corner of the roof shown in Figure 1; and

Figure 3 is a front elevation of the assembly, parts being cut away.

The roof shown in Figures 1 and 2 is of so-called P shape and comprises a first portion 1 joined to a wall 2, e.g. of a house, and having at one end at right angles an extension 3 defining a conservatory roof. The roofs slope downwardly to define a valley 4 in between.

The first portion 1 includes a wall plate 5 to be abutted against and connected, e.g. screwed to the wall 2. As shown best in Figure 2, the wall plate comprises a basal portion 6 and an upper portion 7. The basal portion 6 has a downwardly inclined ledge 8 and the upper portion 7 has a forward facing V-projection 9 surmounted by a flat wall 10. Frame members 11 extend from the ledge 8 to an eaves beam 12 and panes P of glass or plastic are present.

The conservatory roof 13 has at its apex a ridge member 13. The member 13 comprises a base portion 14 and an upper portion 15. The base portion 14 comprises an upright hollow web 16 of rectangular section and two longitudinal

opposite downwardly inclined side flanges 17. The upper portion 15 is of trapezoidal section. Frame members 11 extend from the ridge 13 to the beam 12 to define the sloping roof of the conservatory.

A valley member 18 is present in the valley 4 where the two portions of the P shape meet. The valley member is of shallow V-section and the side flanges 19 have longitudinal edge walls 20 (to engage adjacent frame members 11). At the centre the valley member has two arcuate elements 21 on each side of a connector bar 22. The bar has a tall web 23 and a thick rectangular head 24.

The components are joined together by means of a connector 30 of the invention. The unit 30 is a one piece casting of say aluminium or the like. The unit comprises a floor 31, which is somewhat triangular as seen in plan having an upright back wall 32 in the corner along one of the outer walls. The back wall 32 corresponds to the usual ridge cleat plate and has holes by which it may be secured to the wall of the house 2. Three vertical walls are present W1, W2 and W3. One wall, W1, seen at the left hand side of Figure 2, is generally square as seen in elevation and is shaped and dimensioned to be received in the hollow section 16 of the conservatory ridge 13 when the base portion 14 rests on the adjacent floor portion F1. The floor portion F1 slopes inwardly downwardly so that the inner ledge 17 may be received thereon. Another side wall, W2, seen to the right hand side of the upright wall on Figure 2, projects forward over the floor and has a profile 33 corresponding to that of the wall plate 5. The floor F2 slopes downwardly to the front and is disposed so that when the wall plate 5 is present thereon the profile 33 matches that of the wall plate 5. A third wall W3 extends approximately at 45° across the floor and is shaped to correspond to that of the bar 22 including the arcuate elements 21. The forward portion F3 of the floor is profiled to correspond to that of the valley member 18 and include a front lead-in portion 34 defines corners 35 where it meets the sloping portions F1 and F2.

All exposed faces of the projecting walls W1, W2 are cut flush; the ends of the components they are to engage are also square cut. (Mitre joints are not needed).

In use, the unit 30 of the invention is mounted at the intended position on the house wall 2. The components are cut to length and then abutted against (W2, W3) or urged on to the respective projecting walls (W1), being guided into position by the respective portion of the floor and to the condition shown in Figure 3. Parts may be locked together using bolts and nuts as appropriate, and as shown on Figure 2. A little sealant is applied and its presence is hidden from view by the floor. It will thus be seen that the unit provides a speedy mitre-free device for accurately connecting the components and at the same time avoids the need for much sealant.

The connector of the invention is of value in any situation where a corner is to be formed and is not limited to the joining of a conservatory roof and lean-to.

CLAIMS

1. A connector unit for the mitre-free connection of the corner unit of a conservatory roof to the wall of a building, the unit comprising a one piece element having an upright wall from which project three wall portions, the outer two walls being substantially parallel to each other, one defining engaging means to complementarily engage the conservatory ridge member and the other having the profile of the wall plate to be abutted to the wall, the intermediate projecting wall extending between and at an angle to the other walls and being adapted to engage the valley member of the roof whereby the ridge member and the wall plate and the valley member may be engaged with the respective projecting wall portions.
2. A unit according to Claim 1, including a floor having portions to guide the ridge member, the wall plate and the valley member respectively into engagement with the respective projecting wall portions.
3. A unit according to Claim 2, wherein the floor portion includes a lead in portion for the valley member.
4. A unit according to any preceding Claim, comprising a casting.
5. A unit according to Claim 4, comprising a casting of aluminium.
6. A unit according to any preceding Claim, including a wall for connection of the unit to the wall of a building.

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(71) Applicant(s)

Thermal Profiles and Accessories Limited

(Incorporated in Ireland)

100A Lower Drumcondra Road, Dublin 9, Ireland

(72) Inventor(s)

Frederick Trenaman

(74) Agent and/or Address for Service

Boulton Wade Tennant

27 Fumival Street, LONDON, EC4A 1PQ,
United Kingdom

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E1R RRH RR24

(56) Documents Cited

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(58) Field of Search

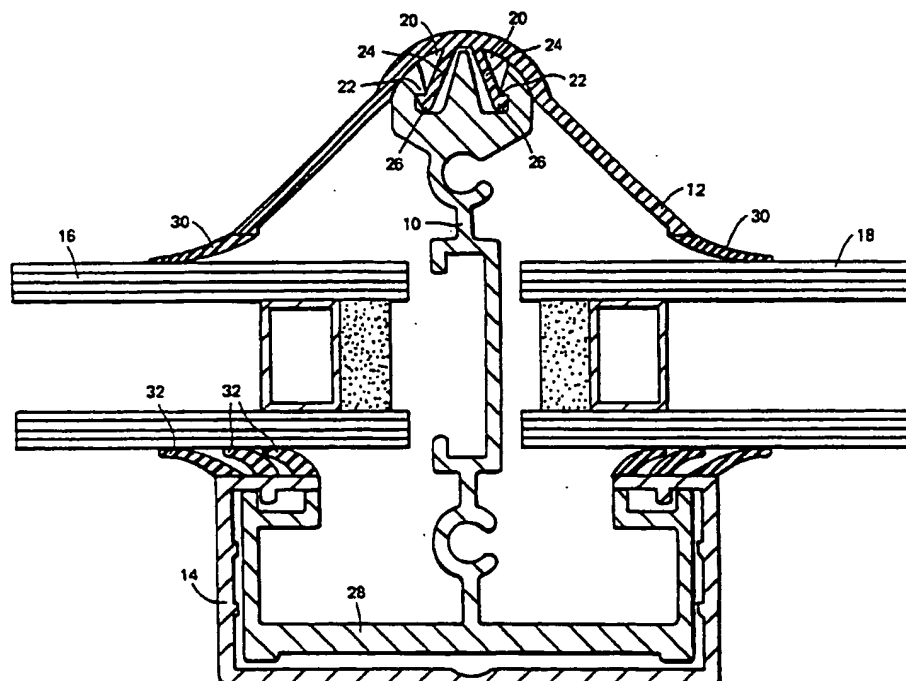
UK CL (Edition O) E1R RF RRF RRH RRV RRX

INT CL⁶ A01G, E04B, E04D, E06B

Online: World Patents Index, EDOC, JAPIO.

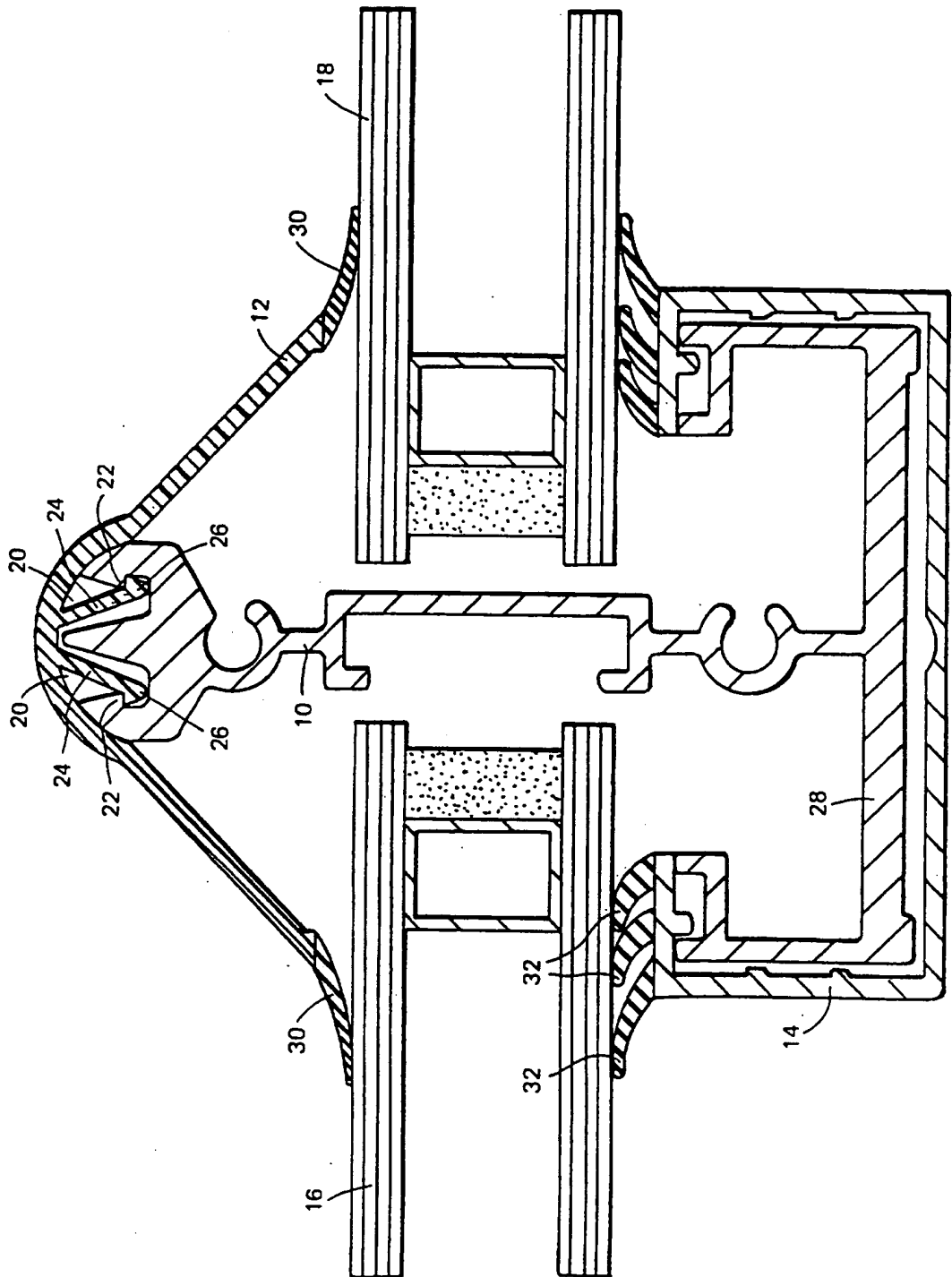
(54) Roof beam glazing bar having cappings with integral seals

(57) A roof beam construction comprises a glazing bar 10, of inverted T-shape, and upper and lower cappings 12, 14 mounted on the glazing bar and extending laterally on each side thereof for embracing the edges of respective glazing panels 16, 18 located one on each side of the glazing bar. The upper and lower cappings having integrally formed gaskets 30, 32 which engage upper and lower surfaces respectively of the glazing panels. The upper edge of the glazing bar has a pair of channels 20 with internal hooks 22, while the upper capping member 12 has a pair of divergent legs 24 having hooks 26 for engagement with the hooks of the channels.



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ROOF BEAM CONSTRUCTION

This invention relates to a roof beam construction, for example for use at the apex of a conservatory roof.

5 According to the invention there is provided a roof beam construction comprising a glazing bar and upper and lower cappings mounted on the glazing bar and extending laterally on each side thereof for embracing the edges of respective glazing panels located one on
10 each side of the glazing bar, the upper and lower cappings having integrally formed gaskets which engage upper and lower surfaces respectively of the glazing panels.

15 An embodiment of the invention will now be described, by way of example, with reference to the accompanying drawing whose single figure is a cross-sectional view of a roof beam construction according to the invention.

20 Referring to the drawing, the roof beam construction according to the embodiment of the invention comprises a glazing bar 10, generally of inverted T shaped cross-section, which is supported
25 between roof beams (not shown). Upper and lower cappings 12, 14 respectively are mounted on the glazing bar 10 and extending laterally on either side thereof for embracing the edges of respective translucent double glazing panels 16, 18 located one on each side
30 of the bar 10.

The glazing bar 10 is preferably extruded from a lightweight metal or metal alloy such as aluminium, and the upper and lower cappings 12, 14 are preferably extruded from a relatively rigid weather and UV resistant plastics material such as PVC.

The upper edge of the glazing bar 10 has a pair of substantially parallel channels 20 each having a stepped outer surface defining a respective downwardly facing hook 22, while the upper capping 12, which is generally of inverted V shaped cross-section, has a pair of downwardly and outwardly divergent resilient legs 24 each having a stepped outer surface defining a respective upwardly facing hook 26.

As seen in the figure, the legs 24 of the upper capping 12 engage in respective ones of the channels 20 of the glazing bar 10 such that the hooks 26 engage behind the hooks 22 to retain the upper capping 12 on the upper edge of the glazing bar 10. It will be understood that the legs 24 of the upper capping 12 are resiliently compressed towards one another as they are inserted into the channels 20, and spring outwardly to the positions shown in the figure as the hooks 22, 26 engage behind one another.

The lower capping 14 is formed as a channel engaging the cross-bar 28 of the T shaped cross-section glazing bar 10.

The upper and lower cappings 12 and 14 have integrally formed gaskets 30, 32 respectively which engage upper and lower surfaces respectively of the glazing panels 16 and 18. The gaskets 30, 32 are formed from rubber or other elastomeric material by co-extrusion with the PVC cappings 12 and 14 respectively.

CLAIMS:

1. A roof beam construction comprising a glazing
bar and upper and lower cappings mounted on the glazing
5 bar and extending laterally on each side thereof for
embracing the edges of respective glazing panels
located one on each side of the glazing bar, the upper
and lower cappings having integrally formed gaskets
which engage upper and lower surfaces respectively of
10 the glazing panels.
2. A roof beam construction as claimed in claim 1,
wherein the glazing bar is generally of inverted T
shaped cross-section.
15
3. A roof beam construction as claimed in claim 2,
wherein the upper edge of the glazing bar has a pair of
substantially parallel channels each having a stepped
outer surface defining a respective downwardly facing
20 hook, and wherein the upper capping has a pair of
downwardly and outwardly divergent resilient legs each
having a stepped outer surface defining a respective
upwardly facing hook, the legs of the upper capping
engaging in respective ones of the channels of the
25 glazing bar such that the downwardly and upwardly
facing hooks engage and retain the upper capping on the
upper edge of the glazing bar.
4. A roof beam construction as claimed in claim 2
30 or 3, wherein the lower capping is formed as a channel
engaging the cross-bar of the T shaped cross-section
glazing bar.
5. A roof beam construction as claimed in any
35 preceding claim, wherein the glazing bar is extruded
from a lightweight metal or metal alloy, and the upper
and lower cappings are extruded from a plastics
material.

6. A roof beam construction substantially as herein described with reference to the accompany drawings.



Application No: GB 9618757.0
Claims searched: 1-6

Examiner: John Rowlatt
Date of search: 22 November 1996

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.O): E1R: RF, RRF, RRH, RRV, RRX.

Int Cl (Ed.6): A01G, E04B, E04D, E06B.

Other: Online: World Patents Index, EDOC, JAPIO.

Documents considered to be relevant:

Category	Identity of document and relevant passage		Relevant to claims
X	GB2275958A	(ULTRAFRAME PLC) - whole document especially relevant; equivalent EP0610102A1.	X: 1, 2 & 4-6 Y: 3
X	GB2259937A	(SCHOLLES) - whole document especially relevant.	X: 1, 2 & 4-6 Y: 3
A	GB2246386A	(ARIEL PLASTICS LIMITED) - see integral seals 10a, 10b.	
A	GB2241275A	(HOMESTYLE LIMITED)	
A	GB2111112A	(MARLEY TRIDENT LIMITED) - see integral seals 6b.	
Y	GB2078837A	(PILLAR PG LIMITED) - see channel and hooked projection mounting of capping in figure 2.	3
Y	GB1549279A	(BTR INDUSTRIES LIMITED & ALUMINUM SYSTEMS LIMITED) - see channels 9 and projecting ribs 8.	3

X Document indicating lack of novelty or inventive step
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